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SKIN-CARE DEVICE

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References Cited:	DE 36 39 953 A1 DE 94 18 892 U1 DE 89 16 210 U1 DE 85 27 068 U1 EP 06 22 154 A1

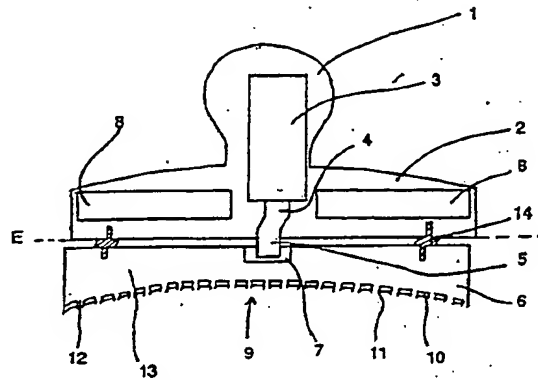
Examination request according to §44 Patent Act has been filed

The following information has been taken [unedited] from documents submitted by the applicant.

[Abstract]

The invention concerns a device for skin care, more specifically, for removing calluses on heels, elbows, etc., with a housing containing an element that can be moved essentially parallel to a plane and that has a working surface facing away from the housing. In order to

always guarantee a uniform, cosmetically blemish-free treatment of the skin, the working surface is curved to form a concave cross section.



The invention concerns a device according to the preamble of Claim 1.

For skin care, more specifically for removing calluses on heels, elbows, etc., various so-called peeling creams are used according to the state of the art. Peeling creams are expensive. In order to achieve the desired skin removal, they usually must be applied several times, which requires a great deal of time. Even for multiple applications, satisfactory results cannot be achieved, particularly for foot care.

For grinding wood or metal, vibrating or eccentric grinders are also known from the state of the art. The known vibrating grinders are unsuitable for skin care, particularly for removal of calluses on heels, elbows, etc., because uniform, cosmetically blemish-free skin removal cannot be achieved with these means. In addition, the use of vibrating grinders can lead to injury and infection, e.g., due to the abrasive grains separated from the grinding surface.

The problem to be solved by the invention is to overcome the disadvantages from the state of the art, more specifically, to present a skin-care device that can be used universally.

This problem is solved by the features of Claim 1. Advantageous refinements of the invention result from Claims 2-12.

According to the invention, the working surface is curved to form a concave cross section. This has the advantage that better contact with the curved sections of skin with the calluses, such as heels, elbows, etc., is achieved, and thus a uniform, cosmetically blemish-free treatment can always be guaranteed.

Advantageously, an electrical drive device for moving the element can be held in the housing. In this case, the housing can contain at least one, preferably replaceable battery for supplying power to the electrical drive device. This configuration can achieve an especially uniform treatment and simultaneously, limitations due to a power cable can be excluded.

The working surface preferably has through-holes. They are used for carrying away rubbed-off parts or for supplying skin-care aids.

A grinding means can be provided on the working surface. The grinding means is preferably a file plate made from stainless metal. The configuration from stainless metal allows the file plate to be sterilized, so that the device according to the invention can always be operated hygienically and without problems.

According to another configuration feature, the file plate has a plurality of filing teeth. The file plate can also have through-holes, which are preferably aligned with the through-holes in the working plate. It has proven especially advantageous if the file plate is attached to the element so that it can also be detached. Thus, when necessary, the file plates can be used with different configurations of filing teeth. In this way, the filing teeth can be configured such that they correspond to abrasive particles, of size 40, 100, 240, and 1000.

According to another configuration feature of the invention, the element has a chamber that connects to the through-holes, and the chamber can be provided with an opening. The opening is used for carrying away rubbed-off parts or for refilling skin-care aids.

According to an especially advantageous refinement, the element can be fixed to the housing by means of a locking device so that the element can be detached. The locking device can be configured according to a type of bayonet catch. In this way, when necessary, elements with different configurations, e.g., with reference to their curvature or grain, can be exchanged quickly and without problem.

The working surface of an element can also have a plurality of elastic nubs made from, e.g., rubber. Such an element is used to massage skin parts, such as the head, back, or areas at risk of "orange-peel skin." Preferably, in this case, the chamber is used as a reservoir for skin-care aids, which are applied during the massage process through the through-holes onto the skin.

Finally, for universal use of the device, a handle can be provided on the housing, so that an extension can be attached to it.

A preferred embodiment of the invention is illustrated schematically in the drawing.

It shows

Figure 1, a top view of a device according to the invention with a first element,

Figure 2, a sectional view along section line A-B in Figure 1, and

Figure 3, a sectional view through a second element.

A device according to the invention is illustrated in Figures 1 and 2 in top view. A round handle 1 is mounted on a housing 2 provided with round edges for reducing the risk of injury. An electrical drive device 3 is held in housing 2. A crank pin 5 connected to a shaft 4 engages a bearing bush 7 mounted in a first element 6 (rubbing element). There are elastic connection elements 14 between the first element 6 and the housing 2. Additional batteries 8 are held in housing 2.

The curved working surface 9 with concave cross section has a narrow end T1 and a wide end T2 in the top view. The special shape of the working surface 9 enables the device also to be used on tightly curved skin areas. The working surface 9 of the first element 6 is formed by a file plate 10. Filing teeth 11 on the file plate 10 are arranged adjacent to through-holes 12, which connect to a chamber 13 formed in the first element 6. The chamber 13 can have an opening for emptying collected rubbed-off parts (not illustrated here).

Figure 3 shows a second element 15 (massage element) in cross section. In this embodiment, the curved working surface 9 with concave cross section has rubber nubs 16.

The function of the device is the following.

For startup of the electrical drive device, the element 6 or 15 is moved in a circular motion that is directed essentially parallel to a plane E formed on the housing 2. By pressing the working surface 9 onto the skin to be treated, calluses are rubbed off by the motion of the filing teeth 11 on the file plate 10. The rubbed-off parts are led through the through-holes 12 into the chamber 13. These parts can be emptied through an opening in the chamber 13. If the element 15 is used, the chamber 13 serves as a reservoir for skin-care aids or hair-washing aids, which are applied during the massage process through the through-holes 12 onto the skin.

The element 6 or 15 can be removed from the housing 2 by unlocking the connection elements 14 and/or the connection between the drive device 3 and the element 6 or 15. In this way, the elements 6 and 15 can be exchanged for each other.

List of reference numbers

- | | |
|----|----------------------------|
| 1 | Handle |
| 2 | Housing |
| 3 | Drive device |
| 4 | Shaft |
| 5 | Crank pin |
| 6 | First element |
| 7 | Bearing bush |
| 8 | Battery |
| 9 | Working surface |
| 10 | File plate |
| 11 | Filing tooth |
| 12 | Through-hole |
| 13 | Chamber |
| 14 | Elastic connection element |
| 15 | Second element |

16	Rubber nubs
E	Plane
T1	Narrow end
T2	Wide end

Claims

1. Device for skin care, more specifically, for removing calluses on heels, elbows, etc., with a housing (2) containing an element (6, 15) that can be moved essentially parallel to a plane (E) and that has a working surface (9) facing away from the housing (2), characterized in that the working surface (9) is curved to form a concave cross section.

2. Device according to Claim 1, characterized in that an electrical drive device (3) for moving the element (6, 15) is held in the housing (2).

3. Device according to Claim 2, characterized in that the housing (2) contains at least one, preferably replaceable battery (8) for supplying power to the electrical drive device (3).

4. Device according to one of the preceding claims, characterized in that the working surface (9) has through-holes (12).

5. Device according to one of the preceding claims, characterized in that a grinding means is provided on the working surface (9).

6. Device according to Claim 5, characterized in that the grinding means is a file plate (10) made from stainless metal.

7. Device according to Claim 6, characterized in that the file plate (10) has a plurality of filing teeth (11).

8. Device according to one of Claims 6 or 7, characterized in that the file plate (10) can be attached to the element (6, 15) so that it can be detached.

9. Device according to Claim 7 or 8, characterized in that the element (6, 15) has a chamber (13) that connects to the through-holes (12).

10. Device according to Claim 9, characterized in that the chamber (13) has an opening.

11. Device according to one of the preceding claims, characterized in that the element (6, 15) can be fixed to the housing (2) so that it can be detached by means of a locking device.

12. Device according to one of the preceding claims, characterized in that the working surface (9) has a plurality of elastic nubs (16).

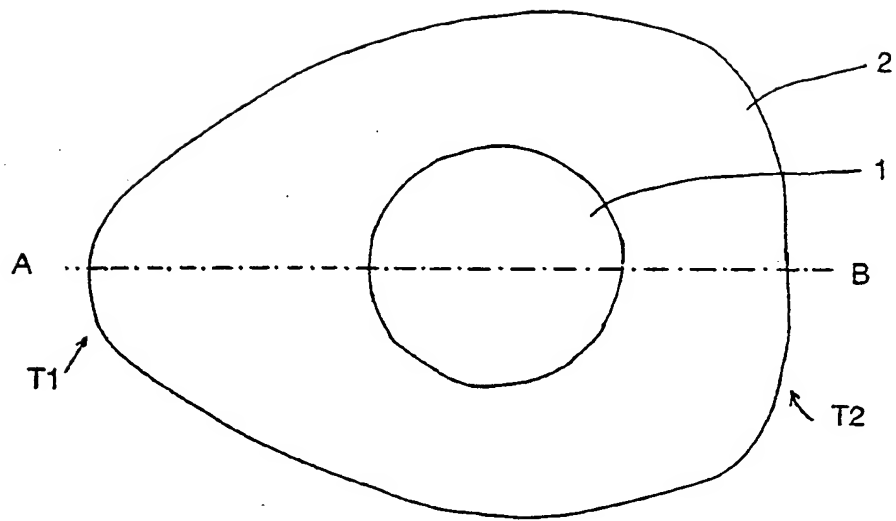


Fig. 1

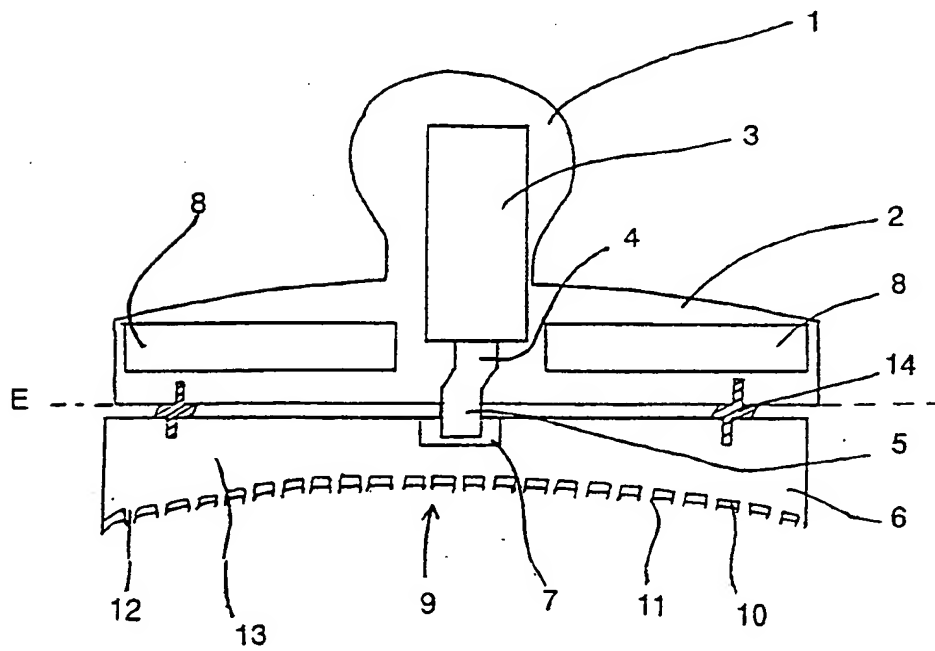


Fig. 2

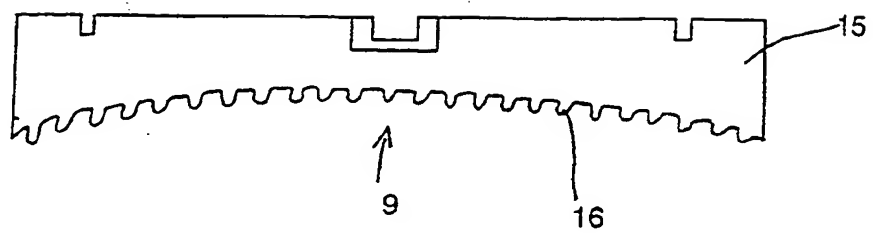


Fig. 3.